

CLAIMS

- 5 1. A process for the production of 3-methylthiopropenal which comprises reacting reaction medium comprising methyl mercaptan and acrolein in the presence of a catalyst comprising an organic base characterised in that the organic base is a N-alkyl morpholine compound.
- 10 2. A process as claimed in claim 1 in which the catalyst is C₁ to C₆ alkyl morpholine.
3. A process as claimed in claim 2 in which the catalyst is methyl morpholine or ethyl morpholine.
- 15 4. A process as claimed in any one of the preceding claims in which the mole ratio of organic base to methyl mercaptan is from 0.0001 to 0.05.
- 20 5. A process as claimed in claim 4 in which the mole ratio of organic base to methyl mercaptan is from 0.001 to 0.01.
6. A process as claimed in any one of the preceding claims in which the mole ratio of methyl mercaptan to acrolein is from 0.9 to 2.
- 25 7. A process as claimed in claim 6 in which the mole ratio of methyl mercaptan to acrolein is from 1 to 1.2.
8. A process as claimed in any one of the preceding claims in which the catalyst further comprises an organic acid.
- 30 9. A process as claimed in claim 8 in which the organic acid is selected from formic acid, acetic acid, propanoic acid and butanoic acid.
10. A process as claimed in claim 9 in which the organic acid is acetic acid.
- 35 11. A process as claimed in any of the claims 8 to 10 in which the mole ratio of catalyst to organic acid is from 0.1 to 2.

12. A process as claimed in claim 11 in which the mole ratio of catalyst to organic acid is from 0.2 to 1.
- 5 13. A process as claimed in any one of the preceding claims carried out at a temperature of from 20 to 70 °C .
14. A process as claimed in claim 13 carried out at a temperature of from 30 to 50 °C.
- 10 15. A process as claimed in any of the preceding claims carried out under atmospheric pressure.
- 15 16. A process for the production of 2-hydroxy-4-(methylthio)butanenitrile which comprises (a) a first step of reacting reaction medium comprising methyl mercaptan and acrolein in the presence of a catalyst comprising an organic base characterised in that the organic base is a N-alkyl morpholine compound to produce a product stream comprising 3-methylthiopropional and said catalyst; and (b) a second step of reacting said product stream with
20 hydrogen cyanide in the presence of a catalyst thereby producing 2-hydroxy-4-(methylthio)butanenitrile.